8. (Amended) A reflection type liquid crystal display device comprising:

at least one thin film transistor formed over an active matrix substrate;

a pixel electrode connected to said thin film transistor;

an insulating film formed between said thin film transistor and said pixel electrode;

a light reflective film containing at least two layers on said pixel electrode, each layers having concavities and convexities, wherein one of said at least two layers has a porous surface;

a first orientation film formed at least on said light reflective film;

a color filter adjacent to an opposing substrate;

an opposing electrode adjacent to said opposing substrate;

a second orientation film adjacent to said opposing substrate; and

a liquid crystal material injected between said first and second orientation films.

14. (Amended) A reflection type liquid crystal display device comprising:

a thin film transistor over a substrate having an insulating surface;

an insulating film comprising a material selected from the group consisting of silicon oxide, silicon nitride and an organic resin over said thin film transistor;

a pixel electrode connected to said thin film transistor; and

a light reflective film containing at least two layers on said pixel electrode, each layers having concavities and convexities,

wherein one of said at least two layers has a first porous surface and the other one of said at least two layers has a second porous surface.

19. (Amended) A reflection type liquid crystal display device comprising:

at least one thin film transistor formed over an active matrix substrate;

a pixel electrode connected to said thin film transistor;

an insulating film formed between said thin film transistor and said pixel electrode;

a light reflective film formed on said pixel electrode, wherein said light reflective film has a porous surface, and has concavities and convexities;

a first orientation film formed at least on said light reflective film;

a color filter adjacent to an opposing substrate;

an opposing electrode adjacent to said opposing substrate;

a second orientation film adjacent to said opposing substrate; and

a liquid crystal material injected between said first and second orientation films.

23. (Amended) A reflection type liquid crystal display device comprising:

a thin film transistor over a substrate having an insulating surface;

an insulating film comprising a material selected from the group consisting of silicon oxide, silicon nitride and an organic resin over said thin film transistor;

a pixel electrode connected to said thin film transistor; and

a light reflective film formed on said pixel electrode,

wherein said light reflective film has a porous surface, and has concavities and convexities.

Please add claim 27, 28, 29, and 30.

--27. (New) A reflection type liquid crystal display device comprising:

at least one thin film transistor formed over an active matrix substrate;

a pixel electrode connected to said thin film transistor;

an insulating film comprising a material selected from the group consisting of silicon oxide, silicon nitride and an organic resin formed between said thin film transistor and said pixel electrode;

a light reflective film formed on said pixel electrode, wherein said light reflective film has a porous surface, and has concavities and convexities;

a first orientation film formed at least on said light reflective film;

a color filter adjacent to an opposing substrate;

an opposing electrode adjacent to said opposing substrate;

a second orientation film adjacent to said opposing substrate; and

a liquid crystal material injected between said first and second orientation films.

28. (New) A liquid crystal display device of claim 27, wherein said liquid crystal material is a phase transition type guest/host liquid crystal.

29. (New) A liquid crystal display device of claim 27, wherein said light reflective film comprises an oxide film.

30. (New) A liquid crystal display device of claim 27 further comprising at least one driving thin film transistor formed over said substrate for driving said thin film transistors connected to said pixel electrodes.- -

Reconsideration and allowance of the above-referenced application are respectfully requested. The following remarks are responsive to the April 18, 2001 Office Action and the September 7, 2001 Advisory Action. Applicants respectfully request reconsideration of the application in view of the following comments.

Response to Specification Objections

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter of "layers of a light reflective film have a porous surface and include concavities and convexities." However, the "layers of a light reflective film have a porous surface" is supported at page 6, lines 20-21 of the specification and "layers of a light reflective film include concavities and convexities" is supported at page 16, lines 23-24. The porous surface is clearly supported in the specification, and therefore Applicants request the objection be withdrawn.

Response to the Claim Rejections Under 35 U.S.C § 103

Claims 1-8, 12-17, and 19-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,805,252 issued to Shimada, et al. in view of U.S. Patent No.

5,550,658 issued to Yoshihiro, et al. The rejection asserts that Shimada allegedly teaches each element of the claims except for light reflective film formed of at least two layers having the same or different configurations, which is allegedly taught by Yoshihiro.

The present invention as claimed relates to a reflective type liquid crystal display device. One embodiment of the invention includes a light reflective film on each pixel electrode. Further, the light reflective film includes concavities and convexities and has a porous surface. This structure is effective in that the light reflective film can make the light scattering large in amount and can also reflect the light in a desired direction by changing its pore size or depth.

None of the cited art teaches or suggests the present invention. Applicants previously submitted annotated copies of Figures 2 and 3 denoting the porous surface of the light reflective film. Although Shimada teaches bumps (42a) on the cover page, Shimada does not teach that the light reflective film has a porous surface. Further, Shimada discloses in column 11, lines 55-58, that it is *not* preferable to provide a honeycomb structure in forming an oxidized layer of a reflection electrode. Thus, Shimada actually teaches *away* from providing a

porous surface. Yoshihiro also fails to teach that the light reflective film has a porous surface.

In view of the foregoing distinctions, Applicants respectfully submit that independent Claims 1, 8, 14, 19, and 23 are patentably distinguished over the cited art. Applicants respectfully submit that Claims 1, 8, 14, 19, and 23 are in condition for allowance, and Applicants respectfully request allowance of Claims 1, 8, 14, 19, and 23.

Claims 2-7, 12, 13, 15-17, 20-22, and 24-26 depend either directly or indirectly from one of the independent claims. Each dependent claim further defines the independent claim from which it depends. In view of the foregoing remarks regarding Claims 1, 8, 14, 19, and 23, Applicants respectfully submit that Claims 2-7, 12, 13, 15-17, 20-22, and 24-26 are likewise in condition for allowance. Applicants respectfully request allowance of dependent Claims 2-7, 12, 13, 15-17, 20-22, and 24-26.

Allowable Subject Matter

Claims 11 and 18 are indicated to contain allowable subject matter if rewritten in independent form. In view of the foregoing remarks regarding the independent claims, Applicants respectfully submit that Claims 11 and 18 are now in condition for

allowance. However, Applicant reserves the right to rewrite Claims 11 and 18 in independent form.

Summary

In view of the above amendments and remarks, all of the claims should be in condition for allowance. A formal notice to that effect is respectfully solicited.

Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 10/16/01

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